Immunizing Healthcare Workers: What Works & Why Does it Matter?
Impact of Seasonal Influenza in Adults ≥65 Years

- 54 – 70% of seasonal flu-related hospitalizations have occurred in people ≥65 years

- Risk is greatest in the oldest age group (≥85 years)
  - 16 times more likely than persons 65 – 84 years

- 70 – 85% of seasonal flu-related deaths have occurred in people ≥65 years

- Case fatality rates in long-term care facilities (LTCF) from influenza complications as high as 55%

1. https://www.cdc.gov/flu/about/disease/65over.htm
2. https://www.cdc.gov/mmwr/preview/mmwrhtml/rr59e0729a1.htm
Influenza outbreaks in LTCFs are common

- In 2017-2018, from select states:
  - Minnesota had 184 confirmed influenza outbreaks in LTCFs
  - Kentucky had 124 confirmed influenza outbreaks in LTCFs

Factors contributing to outbreaks in these settings:

- Close living proximity
- Immune senescence in older adults
- Comorbidities
- Reduced immune response to vaccine

Influenza Outbreaks in LTCFs Associated with Low Vaccination Rates among Health Care Personnel

- Influenza outbreaks in LTCFs have been associated with low vaccination rates among health care personnel (HCP)

- Randomized controlled studies on the impact of HCP vaccination on resident morbidity and mortality in LTCFs have demonstrated substantial decreases in:
  - Influenza-like illness
  - All-cause mortality

Why Focus on Vaccinating Health Care Personnel against Influenza in LTCFs?

- CDC recommends that HCP should be vaccinated annually against influenza
- Protects residents who are high-risk due to age and co-morbid conditions
  - HCP can serve as vectors
  - HCP have high contact with residents
- Improves quality of care by decreasing HCP absenteeism
  - Absenteeism in LTCFs is associated with reduced quality of care (physical restraint use, catheter use, pain management, & pressure sores)
- Benefits employees (personal protection of HCP and their families)

Influenza Vaccination Coverage of HCP by Facility Type

Figure 1. Percent of HCP vaccinated by work setting*, Internet panel surveys, United States, 2010-11 through 2017-18 influenza seasons

- All health care facilities
- Hospital
- Ambulatory care/physician office†
- Long-term care setting
- Other clinical setting§

Black CL, Yue X, Ball SW, et al. Influenza Vaccination Coverage Among Health Care Personnel — United States, 2017–18 Influenza Season. MMWR. 2018; 67(38):1050-4. DOI: http://dx.doi.org/10.15585/mmwr.mm6738a2
Studies show that a large percentage of HCP in LTCFs hold inaccurate beliefs about the influenza vaccine: ~40% HCP believed that vaccination could cause influenza.

- Vaccination rates are almost 30 percentage points higher among HCP who believe that the vaccine is effective.
- Vaccination rates are 12 percentage points higher among HCP who believe that the vaccine does not cause influenza.

When asked why they do not receive the vaccine, HCP typically cite:

- A fear of needles
- Worries of side effects
- Concerns that vaccination will give them influenza
- Belief that they are not at risk of contracting influenza
- Desire to avoid medications and foreign substances

Daugherty JD, Blake SC, Grosholz JM, et al. Influenza vaccination rates and beliefs about vaccination among nursing home employees. Amer J Infect Control 2015; 43 (2): 100-6
Strategies for Improving HCP Vaccination Rates in LTCF

- To an extent, vaccination rates among HCPs at LTCFs increase and HCP absenteeism decrease after:
  - Multifaceted interventions that engage stakeholders
  - Focus on creating an environment that supports risk reduction

- Education programs have a limited impact on vaccination rates

- Although rates at LTCF sites improved influenza vaccination coverage of HCP with voluntary measures, they mostly did not meet Healthy People 2020 goals and might require mandatory programs to reach 90% or higher

- Employer requirements for influenza vaccination, aka mandates, have been shown to dramatically increase HCP rates in acute care settings

Ofstead et al: Moving the needle on nursing staff influenza vaccination in long-term care: Results of an evidence-based intervention. Vaccine. 2017
Rakita et al: Mandatory influenza vaccination of healthcare workers: A five year study. ICHE 2010
Babcock et al: Mandatory influenza vaccination of healthcare workers: Translating policy to practice. CID 2010
INFLUENZA VACCINE FOR Healthcare Personnel

Experience from a Large Academic Healthcare System

2004-2018
HCP and Vaccination 2004 onward: How were we doing with HCP?

• Measles, mumps, rubella, varicella required for all staff
  – HCP and patients are at risk if not immune
  – Long term immunity from disease or vaccine
  – Condition of employment, assessed at hire
  – **HCP compliance approached 100%**

• Influenza recommended for all staff
  – Free vaccine available to all HCP
  – Vaccination on-site in all units, all shifts
  – Vaccine at cafeteria and public hospital areas
  – “Flu fairs” with education, games, & incentives
  – Vaccine for walk-ins in OM clinic 8-12 hours/day
  – **Vaccination Rates <50%**
  – **Why were staff declining influenza vaccine?**
Penn Med Voluntary Influenza Vaccine Program 2006-2007

Declination forms analyzed for HCP concerns

“Flu is not dangerous”
“The vaccine doesn’t work”
“The vaccine will make me sick”
“The vaccine isn’t safe”
“I don’t like to put foreign things into my body”
“I live a clean life so I won’t get flu”
“This is a plot against the staff”
“You must be making money from this”
Penn Med Voluntary Influenza Vaccine Program 2006-2008

- Declination forms analyzed
- Outreach & education via hospital newsletter, email, intranet, & managers’ meetings
- 2008 Flu shot music video using hospital staff

- [http://www.youtube.com/watch?v=ruGgZbAVnko](http://www.youtube.com/watch?v=ruGgZbAVnko)
- Results: Inadequate Improvement
  - 54% 2008-09 (60% of clinical staff)
Should Flu Vaccine be Required? 
Pros & Cons

- Nobody likes being compelled – especially annually
- May reduce efforts to educate & improve voluntary measures
- May produce resentment
- Expensive to monitor and enforce
- Rare voluntary programs have achieved >80-90%
- There may be real limits to voluntary programs
- Even 80-90% coverage rates don’t maximize risk reduction
- Compliance for mandated MMRV immunity approaches 100% with negligible objections
- Early mandatory influenza vaccine programs for HCP reported >95% - doubling prior rates (Rakita 2010; Babcock 2010)
- HCP are generally healthy younger adults with optimal vaccine responses- in contrast to medically fragile patients
Should Flu Vaccine be Required?

- 2007-2008 - Consensus among IC and OM staff
- 2008 Institutional debate and discussion of mandates to enhance patient and staff safety
- 2009 HUP IM/EM Physician survey strongly supported a mandatory vaccine policy (*DeSante et al 2010*)
- Early 2009 Leadership commitment
  - Medical Boards- CMO
  - Nursing Leadership – CNO
  - Human Resources - CHROs
  - Administration
  - General Counsel
Penn Med Influenza Vaccine Program 2009-2010

- New UPHS-wide policy requiring influenza vaccination for all HCP
- Scope: Staff, Physicians, Contractors, Volunteers, Students
- Resources - supported by
  - Educational programs, website
  - Interactive live and electronic Q&A
  - Exemption reviews, medical and religious
  - Multi-faceted outreach to all staff @ all locations
CDC HCP Influenza Vaccination

through 2017–18 influenza seasons
Conclusions & Comparisons

• Are influenza vaccines for HCP effective in reducing risk for patients and staff?
  – Analysis is complicated by
    • Other similar diseases
    • Year to year variability in vaccine characteristics
    • Roles of other IC interventions
  – More difficult to demonstrate in Acute Care
  – Clearly effective in LTCFs

• Are mandates effective in raising HCP rates? **YES**
• Are employer requirements also achievable and desirable in LTCFs? **YES**
Voluntary measures have generally NOT been successful in raising HCP influenza vaccination coverage to the Healthy People 2020 goal of ≥90% coverage

In a national survey, the percentage of HCP in LTCFs who were vaccinated (by employer approach to influenza vaccination):

- Work requirement (89%)
- Promoted by employer (vaccine offered on-site >1 day at no cost to HCP), but not required (59%)
- No employer requirement or vaccine promotion (42%)

Why Focus on Influenza Vaccination Requirements?

Professional Societies that Support Influenza Vaccination Requirements for HCP

- American Academy of Family Physicians (AAFP)
-- AMDA - The Society for Post-Acute and Long-Term Care Medicine
-- Association of Occupational Health Professionals in Healthcare (AOHP)*
-- American College of Physicians (ACP)
-- American Hospital Association (AHA)
-- American Nurses Association (ANA)
-- American Pharmacists Association (APhA)
-- American Public Health Association (APHA)
-- Infectious Diseases Society of America (IDSA)
-- National Foundation for Infectious Diseases (NFID)
-- National Patient Safety Foundation (NPSF)
-- Society for Healthcare Epidemiology of America (SHEA)
-- Association for Professionals in Infection Control and Epidemiology (APIC)
Influenza Working Group Goal to Increase Influenza Vaccination of HCP in LTCFs

- Developed a guidance document for leadership in LTCFs who are considering implementing an influenza vaccination requirement for HCP in their facilities
- Partnered with Gerontological Society of America, May 2018 meeting on increasing influenza vaccination rates of HCP in LTCFs
- Partnered with CMS and presented to Quality Improvement Networks/Quality Improvement Organizations (QIN/QIOs)
- Partnered with AMDA and sponsored an October 2018 meeting with LTCF Executives and Stakeholders
- Presenting to NVAC today to update & seek collaboration
NAIIS Guidance Document for Developing a Vaccination Requirement for HCP in LTCFs

Purpose of document:

• To provide guidance and information for developing an influenza vaccination requirement policy HCP in LTCFs

• Provides a framework for major areas that should be considered when adopting an influenza vaccination requirement policy

NAIIS Guidance Document for Implementing Influenza Vaccination Requirement for HCP

Includes sections (in modular format) on:

- Rationale and supporting evidence for HCP vaccination
- Implementing a vaccination requirement policy
- Employee engagement
- Ethical considerations
- Resources
- FAQs
- Sample Policy
- Sample Exemption Form

The Immunization Action Coalition and AMDA recognize facilities that have influenza vaccination mandates for HCP.

To be included in this honor roll, a facility must require influenza vaccination for employees and must include serious measures to prevent transmission of influenza from unvaccinated workers to patients/residents (e.g., mask or reassignment to non-patient-care duties).

- October 2018: 6 LTCF recognized on the honor roll
- September 2019: 130 LTCF recognized on the honor roll

http://www.immunize.org/honor-roll/influenza-mandates/ltc.asp
Summary

- Influenza can lead to severe complications in LTCF residents
- Vaccination is the best method of preventing influenza
- LTCFs have the lowest vaccination rates among all HCP
- Voluntary measures, easy access to vaccination, staff engagement can increase rates but generally not enough to Healthy People 2020 90% goal
- Vaccination requirements for HCP are supported by professional societies and can help achieve 90% coverage
- **New Tool**: IWG Guidance Document for Post-Acute & LTCFs seeking to create employer requirements
- **New Incentive**: IAC Honor Roll for LTCFs
- **New Opportunity**: Speaking to NVAC today!
Questions?

Interested in joining the Influenza Working Group?
Email Amy Parker Fiebelkorn: dez8@cdc.gov
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For more information, contact CDC
1-800-CDC-INFO (232-4636)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.